

DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION

H16NM  
Revision 1  
Aviation International Rotors,  
Inc.  
(AIR, INC)  
CH-54A  
November 4, 1996

TYPE CERTIFICATE DATA SHEET H16NM

This data sheet, which is a part of the Type Certificate No. H16NM, prescribes conditions and limitations under which the product for which the type certificate was issued meets the airworthiness requirements of the Federal Aviation Regulations.

Type Certificate Holder: Aviation International Rotors Inc.  
19378 Central Rd.  
Apple Valley, CA 92307

I. Model CH-54A (Restricted Category Rotorcraft) Approved June 15, 1994. (See NOTE 6)

Engines (2) Pratt & Whitney JFTD12A-4A (T73-P-1)

Fuel Aviation Kerosene JP4 or JP5

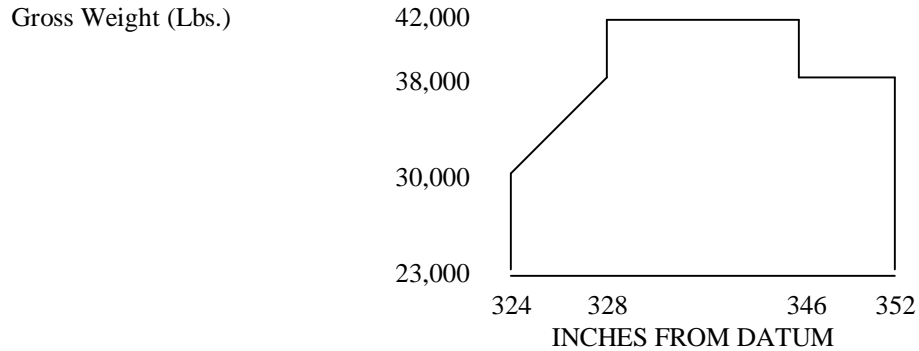
Engine Limits	Shaft Horse- Power	Power Turbine Speed (N <sub>2</sub> )	Gas Gen. Speed (N <sub>1</sub> )	Power Inlet (T <sub>5</sub> )
Military Power (30 min.)	4500	105%	104%	688° C
Normal	4000	104%	104%	655° C

Rotor Limits Max. 204 r.p.m. (110% N<sub>r</sub>)  
Min. 167 r.p.m. ( 90% N<sub>r</sub>.)

Airspeed gross V<sub>NE</sub> (Never Exceed Speed): 99 knots between 38,000 lbs. and 42,000 lbs.  
weight.  
115 knots up to 38,000 lbs. gross weight.

C.G. Range 324.0 to 352.0 at 23,000 lbs.  
324.0 to 352.0 at 30,000 lbs.  
328.0 to 352.0 at 38,000 lbs.  
328.0 to 346.0 at 38,000 lbs.  
328.0 to 346.0 at 42,000 lbs.  
  
Straight Line Variation Between Points Given.

Page No.	1	2	3	4
Rev. No.	1	1	1	1



Datum	336 inches forward of main rotor centroid
Leveling Means	Plumb line from top level plate inside cockpit aft door
Maximum Weight	42,000 lbs.
Minimum Crew	2 - pilot and copilot
Number of Seats	5 - 2 at (+92.9); 1 at (+108.5); 1 at (+127.0), 1 at (+130.0)
Maximum Cargo	See NOTE 5.
Fuel Capacity	1351 gal. - 454 gal. at (+280.8), 454 gal. at (+397.3), 443 gal. at (+461.3)
Oil Capacity	3.2 gal. at (+234.0) - (2 tanks 1.6 gal. each)
Rotor Blade & Control Movements	For rigging information, see NOTE 7.
Other Operating Limitations	See NOTE 4.
Serial No. Eligible	68-18454, 68-18449, 67-18421
Certification Basis	<p>FAR 21.25(a)(2), (b)(7) effective February 1, 1965, including Amendments 21-1 through 21-42. Type Certificate No. H16NM for the Special Purpose(s) of:</p> <ol style="list-style-type: none"> <li>1. Agricultural Operations under FAR 21.25(b)(1).</li> </ol> <p>Note: In accordance with FAR 36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certified under this type certificate are only eligible for agricultural operations excepted by FAR 36.1(a)(4) and defined under FAR 137.3.</p> <ol style="list-style-type: none"> <li>2. Forest and Wildlife Conservation Operations under FAR 21.25(b)(2).</li> </ol> <p>Note: In accordance with FAR 36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certificated under this type certificate are only eligible for dispensing fire fighting materials excepted by FAR 36.1(a)(4) and defined under FAR 137.3</p>

## Certification Basis (cont'd)

## 3. External Load Operations under FAR 21.25(b)(7).

Note: In accordance with FAR 36.1(a)(4), compliance with the noise requirements was not shown. Therefore, aircraft certificated under this type certificate are only eligible for external load operations excepted by FAR 36.1(a)(4) and defined under FAR 133.1(b).

Date of application for Type Certificate: February 28, 1994.

General Note: Any alteration to the aircraft for Special Purposes not identified above require further FAA approval and in addition may require noise and/or flight testing.

## Production Basis

None. Prior to certification of each aircraft, a FAA representative must perform a detailed inspection for workmanship, materials, and conformity with approved technical data.

## Equipment

Equipment necessary for the particular special purpose operation must be installed.

NOTES

## NOTE 1.

A current weight and balance report including a list of equipment included in the certificated empty weight, and loading instructions when necessary, must be in each helicopter at the time of original airworthiness certification and at all times thereafter.

## NOTE 2.

The following placards must be prominently displayed in the cockpit in full view of the pilots, in accordance with drawing AIR-1001:

“THIS ROTORCRAFT MUST BE OPERATED IN ACCORDANCE WITH THE RESTRICTED CATEGORY OPERATING LIMITATIONS OF FAR 91.313.”

“VFR OPERATIONS ONLY”.

The builder's data plate required by FAR 45.13 must be installed in accordance with drawing AIR-1002.

## NOTE 3.

The Maximum Allowable Operating Time (MAOT) schedule for Service Life Limited Part overhaul and retirement intervals are specified in Chapter 1, Section VI of Technical Manual No. TM 55-1520-217-23-1, “Aviation Unit and Intermediate Maintenance Manual CH-54A Helicopter”, with Changes 1 through 21, dated September 23, 1987.

The Maximum Allowable Operating Time (MAOT) for Life Limited Parts (LLP) on the main rotor head are specified in the following list:

MAIN ROTOR HEAD PN S6410-20004, -029, -031, -035

ITEM	NOMENCLATURE	PART NUMBER	RETIREMENT INTERVAL (MAOT)
1	Upper Plate	6410-23010-011	3000
2	Lower Plate	6410-23007-011	3000

NOTE 3. (cont'd)

ITEM	NOMENCLATURE	PART NUMBER	RETIREMENT INTERVAL (MAOT)
3	Spacer	6410-23016-041	9000
		6410-23006-012	4175
4	Hub	1510-23001-4	1030
5	Rod & Bushing	6410-21090-011	5745
6	Sleeve Locknut	1510-23357-0	18300
7	Rot. Swplt.	6410-24002-102	4560
8	Spindle Locknut	1510-23031-1	10500
		1510-23031	750
9	Sleeve	1510-23351	10200
10	Spindle	1510-23027-4	5675
11	Control Horn	1510-23350-2	1600
12	Horiz. Hge. Pin	1510-23099-1	3500
13	Vert. Hg. Pin	1510-23022	2800

T73 Engine TBO was increased from 1500 to 1800 hours in accordance with Dept. of the Army message 0619452 dated April 13, 1988. Additional MAOT extensions were granted to specific CH-54A T73 engines in accordance with Dept. of the Army, AVSCOM (AMSAU-ED) letters. These T73 engine MAOT extensions may not be exceeded.

NOTE 4.

This helicopter must be operated in accordance with a Flight Manual comprised of the following:

- (1) Department of the Army Technical Manual No. TM 55-1520-217-10-1, "Operator's Manual, Army Model CH-54A Helicopters", dated April 8, 1977, with Changes 1 through 8, revised September 25, 1986.
- (2) Department of the Army Technical Manual No. TM 55-1520-217-CL-1, "Operator's & Crewmember's Checklist, Army Model CH-54A Helicopters, Pilot's Checklist", dated June 2, 1985.

VFR Operations Only.

Restricted category aircraft may not be operated in a foreign country without the express written approval of that country.

This aircraft has not been shown to meet the requirements of the applicable comprehensive and detailed airworthiness code as provided by Annex 8 to the Convention on International Civil Aviation.

NOTE 5.

Equipment required for special purpose operations as listed in the Certification Basis must be incorporated as specified in AIR, INC. Engineering Report No. 101, dated March 1, 1994 or later FAA approved revisions.

NOTE 6.

Prior to civil airworthiness certification, AIR, INC. Engineering Report No. 101, dated March 1, 1994 or later FAA approved revisions, must be incorporated.

NOTE 7.

These helicopters must be serviced and maintained in compliance with AIR, INC. Continued Airworthiness Maintenance Report No. 102 dated March 1, 1994 or later FAA approved revisions.

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